

Amendments to the Claims:


This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) In a computer system, a method saving a running software application for execution at a later time, the application being associated with a process having a state and an environment, comprising the steps of:
- (a) associating a unique identifier with a the running software application to be saved;
 - (b) virtualizing the process environment associated with said running software application;
 - (c) recording process events that change the state of the process;
 - (d) saving process state in the form of a snapshot image; and
 - (e) saving shared resource state relevant to said snapshot image with said snapshot image.
2. (Original) The method of claim 1, further including the step of saving modified memory pages relevant to said snapshot image with said snapshot image.
3. (Original) The method of claim 1, further including the step of saving states associated multiple threads relevant to said snapshot image.
4. (Currently amended) A method of restoring to a running state a software application stored in a running state with necessary processes, process state information, memory information, and dependency information, comprising the steps of:
- (a) matching said stored software application with an application identifier;
 - (b) locating all stored processes stored with said software application;
 - (c) recreating global/shared state;
 - (d) creating a process that inherits the global/shared state;

- (e) isolating the global/shared state process from other processes;
- (f) For each type of state stored within the stored software application, bind system state to a virtual definition if the state is virtualized, reconnect the state to any processes the state is shared with, and place the state in synchronized wait;
- ~~(g)~~ removing traces and states induced; and
- ~~(h)~~ performing a synchronized resume of all processes.

5. (Currently amended) A computer program product, which, when executed by a computer, saves a running software application for execution at a later time, the application being associated with a process having a state and an environment, by performing the steps of:

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- (a) associating a unique identifier with a the running software application to be saved;
 - (b) virtualizing the process environment associated with said running software application;
 - (c) recording process events that change the state of the process;
 - (d) saving process state in the form of a snapshot image; and
 - (e) saving shared resource state relevant to said snapshot image with said snapshot image.

6. (Currently amended) A computer program product, which, when executed on a computer, restores to a running state a software application stored in a running state with necessary processes, process state information, memory information, and dependency information, executing the steps of:

- (a) matching said stored software application with an application identifier;
- (b) locating all stored processes stored with said software application;
- (c) recreating global/shared state;
- (d) creating a process that inherits the global/shared state;
- (e) isolating the global/shared state process from other processes;
- (f) For each type of state stored within the stored software application, bind system state to a virtual definition if the state is virtualized, reconnect the state to any processes the state is shared with, and place the state in synchronized wait;

- (g) removing traces and states induced; and
- (h) performing a synchronized resume of all processes.

7. (New) A method comprising:
recording process events that change one or more states of one or more processes
associated with a running software application;
saving one or more snapshot images, the one or more snapshot images comprising
said one or more process states of said one or more; and
saving shared resource state used by the application with said snapshot images.

8. (New) The method of claim 7, further comprising associating a unique identifier
with said running software application.

9. (New) The method of claim 7, further comprising virtualizing one or more
process environments associated with said one or more processes.

10. (New) The method of claim 7, wherein saving said one or more snapshot images
comprises saving the difference between the current process state and a prior
snapshot.

11. (New) The method of claim 7, further comprising suspending said one or more
processes.

12. (New) The method of claim 7 further comprising restoring said software
application, wherein said restoring comprises:
restoring said shared resource state; and
restoring each of the one or more processes associated with said one or more
snapshot images.

13. (New) The method of claim 12 wherein said saving said one or more process
states and said saving shared resource state occurs on a first computer system, and

wherein said restoring said software application occurs on a second computer system.

14. (New) A system comprising:
- an application framework operable to record process events that change one or more states of one or more processes associated with a running software application, and
 - a snapshot driver operable to:
 - save one or more snapshot images including said one or more process states of said one or more processes; and
 - save shared resource state used by the application with said snapshot images.
15. (New) The system of claim 14, wherein said snapshot driver is further operable to associate a unique identifier with said running software application.
16. (New) The system of claim 14, wherein said snapshot driver is further operable to virtualize one or more process environments associated with said one or more processes.
17. (New) The system of claim 14, wherein said snapshot driver is further operable to save the difference between the current process state and a prior snapshot.
18. (New) The system of claim 14, wherein said snapshot driver is further operable to suspend said one or more processes.
19. (New) The system of claim 14 further comprising a restore driver operable to restore said software application, wherein said restoring comprises:
- restoring said shared resource state; and
 - restoring each of the one or more processes associated with said one or more snapshot images.

20. (New) The system of claim 19 wherein said snapshot driver operates on a first computer system, and wherein said restore driver operates on a second computer system.

21. (New) A computer readable medium including program instructions executable to implement a method comprising:
recording process events that change one or more states of one or more processes associated with a running software application;
saving one or more snapshot images, the one or more snapshot images comprising said one or more process states of said one or more; and
saving shared resource state used by the application with said snapshot images.

22. (New) The computer readable medium of claim 21, wherein the method further comprises associating a unique identifier with said running software application.

23. (New) The computer readable medium of claim 21, wherein the method further comprises virtualizing one or more process environments associated with said one or more processes.

24. (New) The computer readable medium of claim 21, wherein saving said snapshot images comprises saving the difference between the current process state and a prior snapshot.

25. (New) The computer readable medium of claim 21, wherein the method further comprises suspending said one or more processes.

26. (New) The computer readable medium of claim 21 wherein the method further comprises restoring said software application, wherein said restoring comprises:
restoring said shared resource state; and
restoring each of the one or more processes associated with said one or more snapshot images.

27. (New) The computer readable medium of claim 21 wherein said saving said one or more process states and said saving shared resource state occurs on a first computer system, and wherein said restoring said software application occurs on a second computer system.

28. (New) A computer readable medium including program instructions executable to implement a method comprising:
virtualizing one or more resources associated with a running software application;
saving a first snapshot image comprising a state of the running software application on a first computer system;
saving a second snapshot image of the running software application on the first computer system, the second snapshot image containing only differences from the first snapshot image; and
restoring said running software application from said one or more of the snapshot images, the restoring occurring on a second computer system different from the first computer system.

29. (New) The computer readable medium of claim 28, wherein the method further comprises associating a unique identifier with said running software application.
